RDU 12/7/10
JHI 12/8

Quantum Environmental & Engineering Services, LLC

December 6, 2010

File: SETRCF/BCCF 2010 (Bledsoe Co.)

Mr. Mike Lee
State of Tennessee
Department of Environment & Conservation
7th Floor L & C Annex
401 Church Street
Nashville, TN 37243-1534

Subject: **Proposed Revision of TDEC NRS No. 09.009 (ref. USACE Permit No. 200502425), Discharge of Fill Material into Wetlands and Streams Associated with the Expansion of the Bledsoe County Correctional Facility, Pikeville, Bledsoe County, Tennessee**

Dear Mr. Lee:

I am writing you to request a revision to the above-referenced §401 Water Quality Certification that was issued by TDEC's Division of Water Pollution Control on February 2, 2010. The revision involves reduction to the widths of upland oak buffers surrounding a number of the stream and wetland mitigation areas. (See Part II, Items d & e for original permit conditions). Riparian zone shrub plantings will not be affected. The requested modifications have come about largely because of plant supply issues and an effort to control project costs.

Proposed Revisions to Aquatic Resource Mitigation

Streams 1, 2, 3, and 4: We are proposing to lessen the widths of upland oak buffer zones from 50 ft to 25 ft along both flanks of Stream 1 below its confluence with Stream 2, and along both flanks of Stream 3. We are also proposing the same actions along the south flank of Stream 2 and the west flank of Stream 4 (see Figure 1).

Being that total buffer width on these small, seasonal waterways will still exceed 50 ft on either side (25 ft riparian plantings and minimum 25 ft upland oak planting), we believe this modification falls within the guidelines set forth by TDEC.[1] Additionally, it is important to note that upland areas lying immediately adjacent to the planted buffers are part of the mitigation package and will never be developed. They will be allowed to become forested through natural successional processes and themselves will offer future protection to the site's aquatic resources.

Wetland Establishment and Enhancement Area: Oak buffers along the southern boundary of the wetland creation area and western half of one of the site's wetland enhancement areas will also be reduced from 50 to 25 ft (see Figure 1).

[1] Source: TDEC, 2004. *Stream Mitigation Guidelines for the State of Tennessee.*

126 Dante Road Knoxville, Tennessee 37918 phone: 865.689.1395 fax: 865.689.6844 www.QE2LLC.com

Since we are unaware of any promulgated requirements for planted upland zones adjacent to wetland mitigation areas, the main goals associated with establishing vegetated uplands are to provide erosion resistant buffers and habitat diversity for indigenous plants and animals. We believe that reducing the amount of planted oaks will not have a negative effect on either of these goals. This is especially true since, as was stated above; adjoining uplands will be legally protected in perpetuity and will become forested through natural succession. Undoubtedly, a portion of the future species mix will contain native oaks. It should also be pointed out that a number of segments in the northern part of the mitigation area will contain oak buffers that will exceed 100 ft wide. The most significant of these surrounds the (state-endangered) granite gooseberry transplant site.

Please be aware that no changes to the wetland and stream components of the original mitigation plan are being proposed other than the reconfiguration of buffer zones described above. Positive wetland hydrology will still be encouraged through a combination of site lowering, berming, and redirection of storm water runoff. The planting scheme will continue to foster the development of a Cumberland Seepage Forest System dominated by indigenous tree and shrub species.

Thank you for considering these requested revisions to the original Water Quality Certification. This is a time-sensitive matter so we would very much appreciate the favor of a prompt response. If you need any additional inform please contact me at 865-689-1395.

Sincerely,

Karl J Knoth

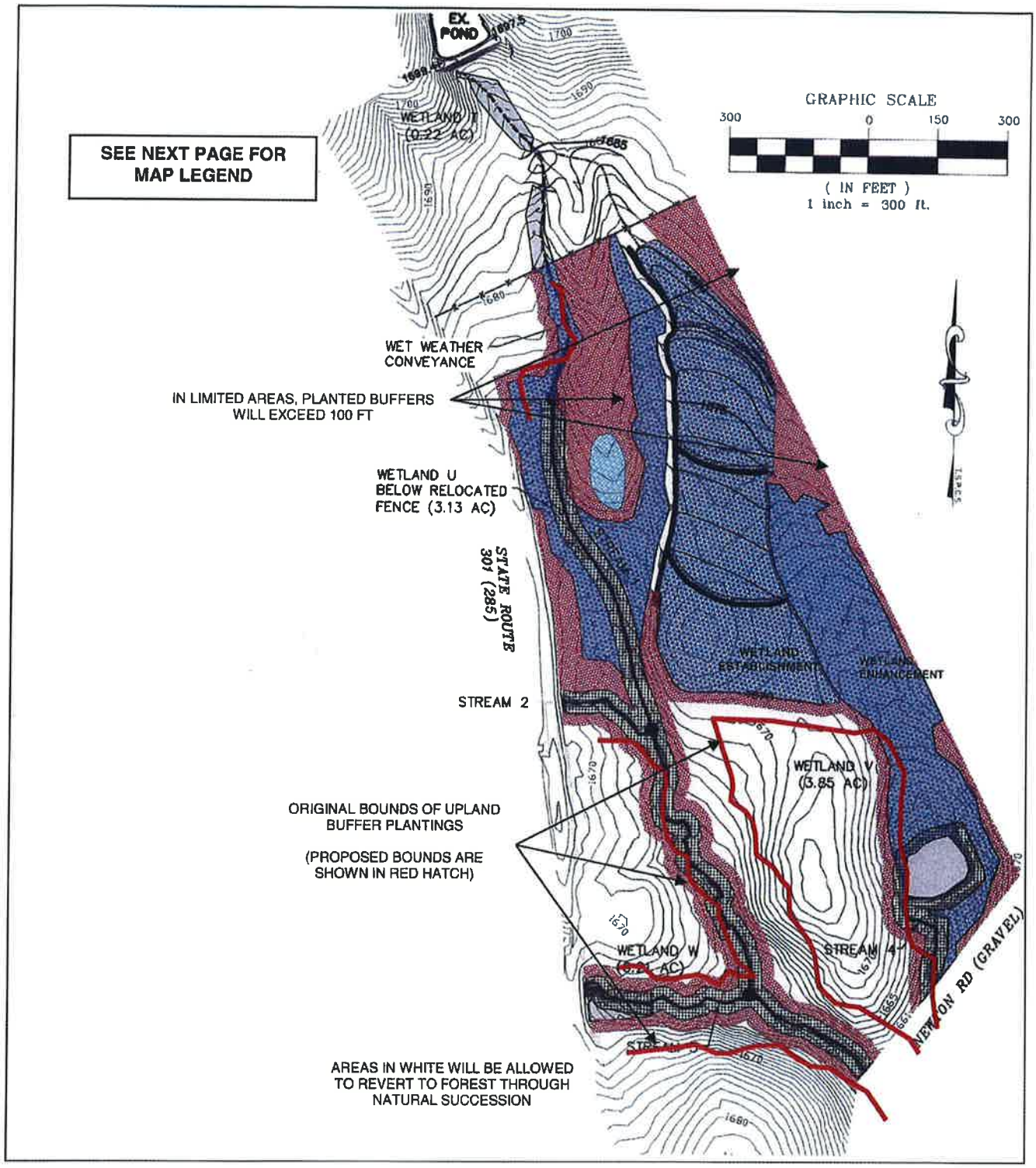
Karl Knoth, P.E.

c: Greg Steck, TDF&A
Tim Gibson, DLR Group
Tom Robinson, TDOC
Mark Carnes, USACE
Jennifer Innes, TDEC Chattanooga
Paul Durr, Water Resources, LLC

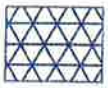
Proposed Upland Buffer Revision
Bledsoe County Correctional Complex
Stream and Wetland Mitigation Site
Pikeville, Tennessee

Figure 1, Revised Planting Plan

FIGURE 1 REVISED PLANTING PLAN

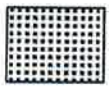


PLANTING LEGEND



CUMBERLAND SEEPAGE FOREST (PF01B): TO BE PLANTED IN WETLAND ESTABLISHMENT AND ENHANCEMENT AREAS.
SIZE CLASS: 24–48 IN. BARE ROOT.
SPACING: 10x10 FT.
SPECIES: AT LEAST 5 OF THE FOLLOWING SPECIES– RED MAPLE *(ACER RUBRUM)*, SWEETGUM *(LIQUIDAMBAR STYRACIFLUA)*, BLACKGUM *(NYSSA SYLVATICA)*, YELLOW–POPLAR *(LIRIODENDRON TULIPIFERA)*, AMERICAN HOLLY *(ILEX OPACA)*, SERVICEBERRY *(AMELANCHIER ARBOREA)*

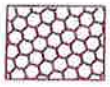
NOTE 1: TREES SHOULD BE GENERALLY PLANTED AT RANDOM. LESS MOISTURE–TOLERANT SPECIES (AMERICAN HOLLY AND SERVICEBERRY), HOWEVER, SHOULD BE LOCATED IN SOMEWHAT DRIER LOCATIONS SUCH AS WETLAND/UPLAND TRANSITION ZONES.



RIPARIAN BUFFER: TO BE PLANTED IN STREAM ENHANCEMENT AREAS, ON BERM INTERIORS, AND MINOR AMOUNTS AROUND THE PERIMETER OF THE REMNANT EMERGENT WETLAND.
SIZE CLASS: 24–48 BARE ROOT OR CONTAINERIZED
SPACING: 3 ROWS DEEP ON EITHER SIDE OF STREAM CHANNEL AND WITH STAGGERED 10 FT. SPACINGS ALONG EACH ROW.
SPECIES: AT LEAST 6 OF THE FOLLOWING SPECIES– BUTTONBUSH *(CEPHALANTHUS OCCIDENTALIS)*, STREAM ALDER *(ALNUS SERRULATA)*, COMMON WINTERBERRY *(ILEX VERTICILLATA)*, BLACK CHOKEBERRY *(ARONIA MELANOCARPA)*, SPICEBUSH *(LINDERA BENZOIN)*, SOUHERN ARROW–WOOD *(VIBURNUM DENTATUM)*, ELDERBERRY *(SAMBUCUS CAMADENSIS)*, HIGH–BUSH BLUEBERRY *(VACCINIUM CORYMBOSUM)*

NOTE 1: SHRUBS SHOULD BE PLACED IN ORDER OF TOLERANCE TO MOISTURE (E.G. BUTTONBUSH IS THE MOST TOLERANT AND SHOULD BE PLACED NEAREST STREAM CHANNELS, LOW BERM INTERIORS, AND ADJACENT TO OPEN WATER WETLANDS, FOLLOWED BY STREAM ALDER, COMMON WINTERBERRY, BLACK CHOKEBERRY, ELDERBERRY, SPICEBUSH, SOUTHERN ARROW–WOOD AND HIGH–BUSH BLUEBERRY.

NOTE 2: BERMS SHOULD BE STABILIZED IMMEDIATELY AFTER CONSTRUCTION WITH REDTOP GRASS *(AGROSTIS ALBA)* AND ANNUAL RYEGRASS *(LOLIUM MULTIFLORUM)*.



UPLAND OAK BUFFER: TO BE PLANTED ADJACENT TO CUMBERLAND SEEPAGE FOREST AND RIPARIAN BUFFER.
SIZE CLASS: 24–48 IN. BARE ROOT.
SPACING: 10 X 10 FEET.
SPECIES: AT LEAST 4 OF THE FOLLOWING SPECIES– WHITE OAK *(QUERCUS ALBA)*, POST OAK *(QUERCUS STELLATA)*, SOUTHERN RED OAK *(QUERCUS FALCATA)*, SCARLET OAK *(QUERCUS COCCINEA)*, NORTHERN RED OAK *(QUERCUS RUBRA)*, BLACK OAK *(QUERCUS VELUTINA)*, SHUMARD OAK *(QUERCUS SHUMARDII)*.

GRANITE GOOSEBERRY TRANSPLANT AREA
GRANITE GOOSEBERRY *(RIBES CURVATUM)*